



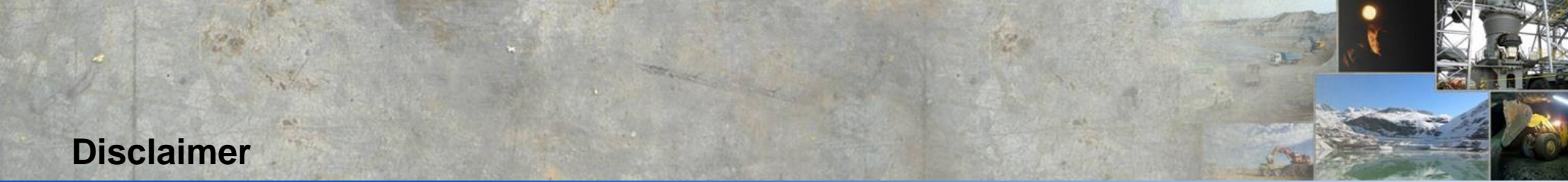
**MINSUR**



## South American Tin Supply

Juan Luis Kruger, CEO Minsur

May 18<sup>th</sup>, 2015



## Disclaimer

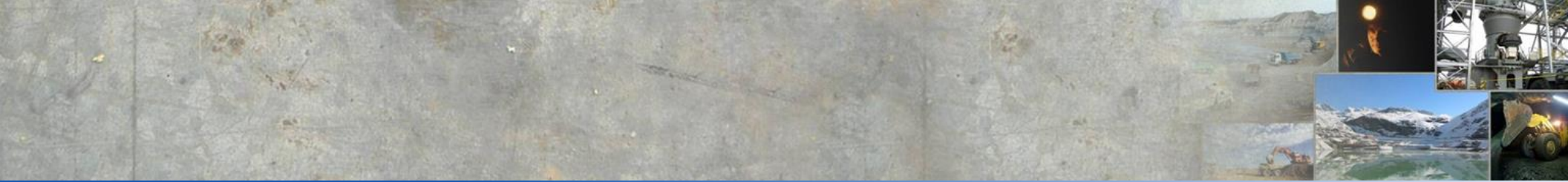
The information contained in the following presentation has been extracted or derived from and is intended as a brief synopsis of certain information in the Preliminary Offering Memorandum, dated January 17, 2014 (the “Preliminary Offering Memorandum”), relating to the notes to be issued by Minsur S.A. (“Minsur”) thereunder (the “the Company”). Such information is subject in all cases to the complete disclosure set forth in the Preliminary Offering Memorandum, and in the event of a conflict between information in the following presentation and the Preliminary Offering Memorandum, the information in the Preliminary Offering Memorandum shall prevail.

This presentation should not be construed as financial, legal, tax, accounting, investment or other advice or a recommendation with respect to any investment. Such information and materials (and the matters contemplated herein) do not constitute (or serve the basis for) an offer to sell or a solicitation of an offer to purchase any securities in any jurisdiction. Under no circumstances is this information and material to be construed as a prospectus, supplement, offering memorandum or advertisement. Neither any part of this presentation nor any information or statement contained therein shall form the basis of or be relied upon in connection with any contract or commitment whatsoever. Any decision to purchase the Notes should be made solely on the basis of the information contained in the Preliminary Offering Memorandum, which may be published or distributed in due course in connection with the offering of the Notes.

This presentation contains statements that are forward-looking within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934. Such forward-looking statements are based on current expectations and projections about future events and trends that may affect the Company’s business and are not guarantees of future performance. Investors are cautioned that any such forward-looking statements are and will be, as the case may be, subject to many risks, uncertainties and factors, including those relating to the operations and business of the Company. These and various other factors may adversely affect the estimates and assumptions on which these forward-looking statements are based, many of which are beyond our control. While the Company may elect to update forward-looking statements at some point in the future, it specifically disclaims any obligation to do so, even if its estimates change.

The notes have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the “Securities Act”) or any U.S. state securities laws. Accordingly, the notes will be offered and sold in the United States only to qualified institutional buyers, as defined under Rule 144A of the Securities Act, in reliance on exemptions from registration provided under the Securities Act and the rules thereunder, and outside the United States in accordance with Regulation S under the Securities Act.

No representations or warranties, express or implied, are made as to, and no reliance should be placed on, the accuracy, fairness or completeness of the information presented or contained in this presentation. Neither the Company nor any of its affiliates, advisers or representatives, including the initial purchasers or any of their respective affiliates, advisers or representatives, accepts any responsibility whatsoever for any loss or damage arising from any information presented or contained in this presentation.



## AGENDA

**South American Production Overview**

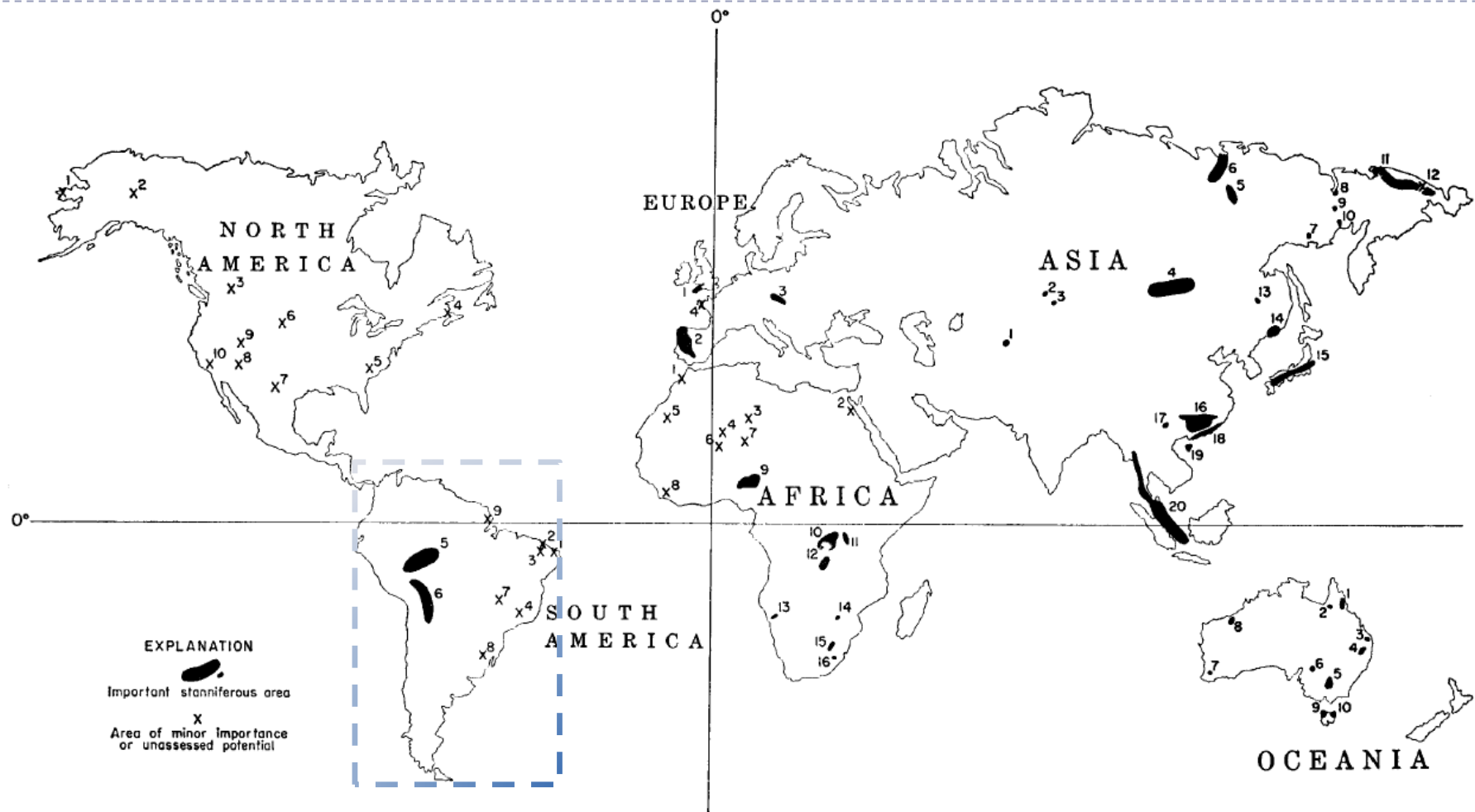
**New Production**

**Minsur's Operations**

**Challenges and Conclusions**



# Tin World Occurrences

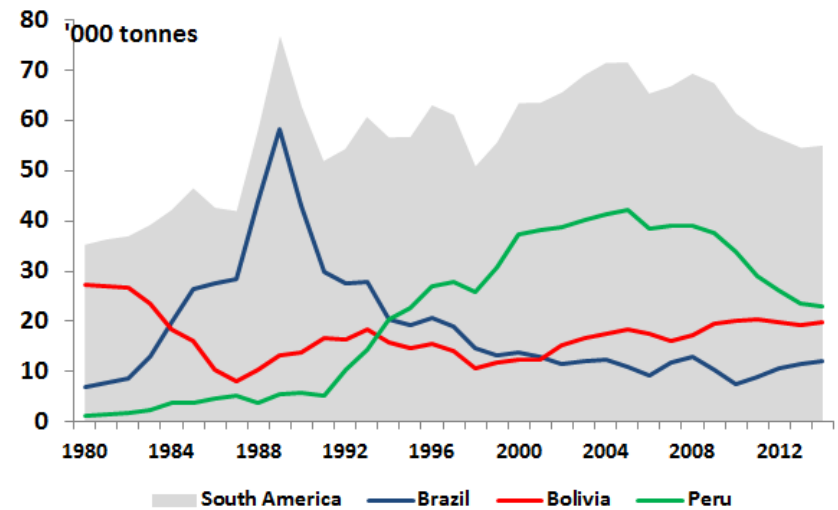


Modified from Sainsbury, 1969; and Taylor, 1979

# Tin in South America: Mine Production

- South America, major **tin mine** producer
  - 2014 Tin mine production: ~56,000 MT
  - ~18% of global tin mine production
- Peru (San Rafael Mine) contributed with 42% of South America's tin production
- Bolivia contributed with 36% (~ 19,900 MT)
- Brazil contributed with 23% (12,500 MT)

Trends in South American tin mine production



Data: Company reports, ministry of mines & metallurgy, SNIEE



# Tin in South America: Refined Tin Production



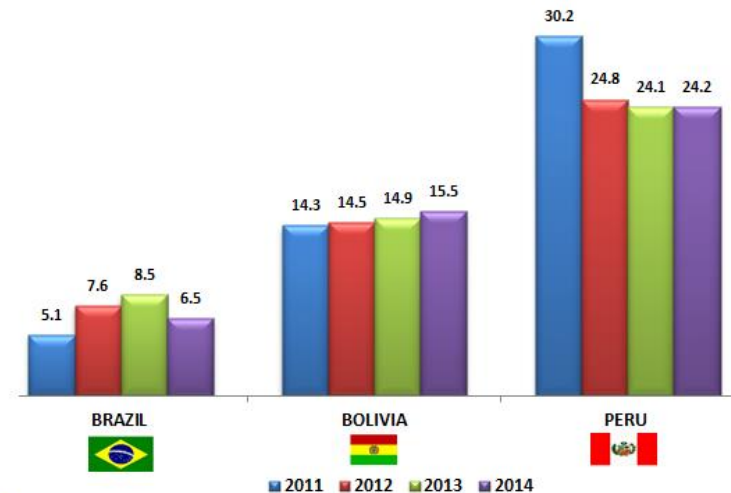
- South America's 2014 **refined tin** production: ~47,000 MT
  - ~14% of global refined tin supply
- Peru (Pisco S&R) produced 50% of South America's refined tin production
- Bolivia's (EM Vinto and OMSA) contributed with 32%.
- Brazil contributed with 18%

## Leading South American producers

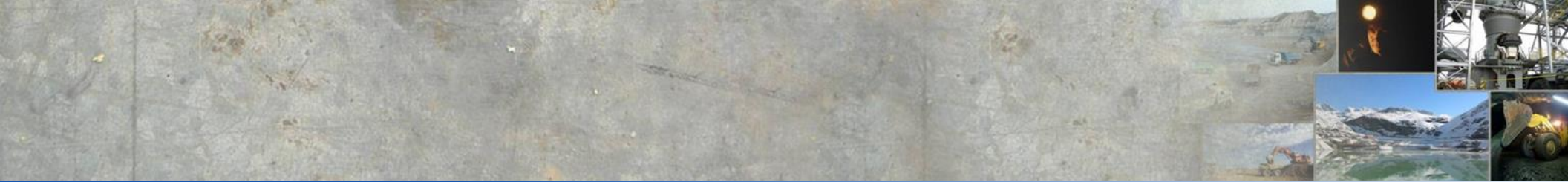
Refined tin production, tonnes

Company	Country	2011	2012	2013	2014	%change
Taboca	Brazil	1,253	3,026	4,212	5,010	18.9%
White Solder	Brazil	2,222	2,341	2,211	2,392	8.2%
EM Vinto	Bolivia	10,960	11,241	11,253	11,734	4.3%
OMSA	Bolivia	3,335	3,276	3,672	3,769	2.6%
Minsur	Peru	30,162	24,822	24,132	24,223	0.4%
Coopermetal	Brazil	1,660	1,125	1,172	1,074	-8.4%
<b>Total</b>	<b>South America</b>	<b>49,592</b>	<b>45,830</b>	<b>46,652</b>	<b>48,202</b>	<b>4.3%</b>

Data: Company reports, Bolivia Ministry of Mines & Metallurgy, SNIEE



Data: Company reports, Bolivia Ministry of Mines & Metallurgy, SNIEE



## AGENDA

South American Production Overview

**New Production**

Minsur's Operations

Challenges and Conclusions

# Investments in Tin in South America

Project	Owner	Location	Ore '000 Mt	Ore Grade	Contained Sn MT	Project Stage	Expected date	Life of Mine
San Rafael Tailings	Minsur	Peru	7,620	1.05% Sn	80,260	PFS	2S 2016	8 years
Azul Tin Project	Avenue Resources Ltd <sup>1</sup>	Brazil	3,000 – 5,000	0.8% - 1.2%	24,000 – 26,000	Exploration	na	na
Sao Lourenco	Avenue Resources Ltd <sup>2</sup>	Brazil	Exploration phase					
Arara Project	CMR Ltd.	Brazil	450,000 – 720,00	0.167% - 0.383%	75,000 – 276,000	Exploration	na	na
El Kenko (tailings)	South American Tin Ltd (SAT) <sup>3</sup>	Bolivia	9,200	0.40% Sn	36,800	Exploration/ Studies	na	4 years
Catavi (tailings)	SAT <sup>3</sup>	Bolivia	17,000	0.35% Sn	59,500	Exploration/ Studies	na	4 years
Sink&Float (tailings)	SAT <sup>3</sup>	Bolivia	25,000	0.27% Sn	65,000	Exploration	na	5 years
Siglo XX Mine	SAT <sup>3</sup>	Bolivia	Exploration stage, historically one of Bolivia's largest tin mines					

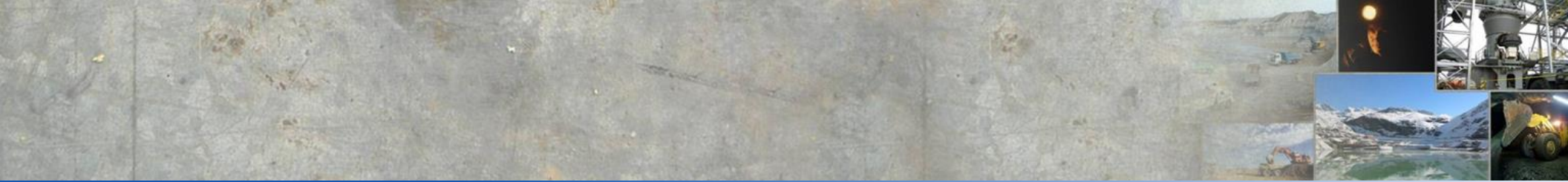
**Sources:**

<sup>1</sup> Avenue Resources Limited ASX Release 26 March 2013

<sup>2</sup> Avenue Resources Limited March 2012 Quarterly Activities Report

<sup>3</sup> South American Tin Ltd Investor Presentation January 2013





## AGENDA

South American Production Overview

New Production

**Minsur's Operations**

Challenges and Conclusions

# Minsur's portfolio of assets

## **SAN RAFAEL (Sn)**

- World's largest and richest ore grade tin mine
- Processing capacity of 2,900 MT/day
- R&R of 2102 k MT of contained Tin (2014)
- 2014 average grade : 2.48%
- Cash Cost (2014): US\$ 8,459/MT (includes Pisco's cash cost)



## **PITINGA (Sn)**

- World's largest contained tin resources (545 k MT – 2013)
- Vertically integrated through the Pirapora (smelter)
- By-product cash cost (2014): US\$ 17,910/MT (includes Pirapora's cash cost)



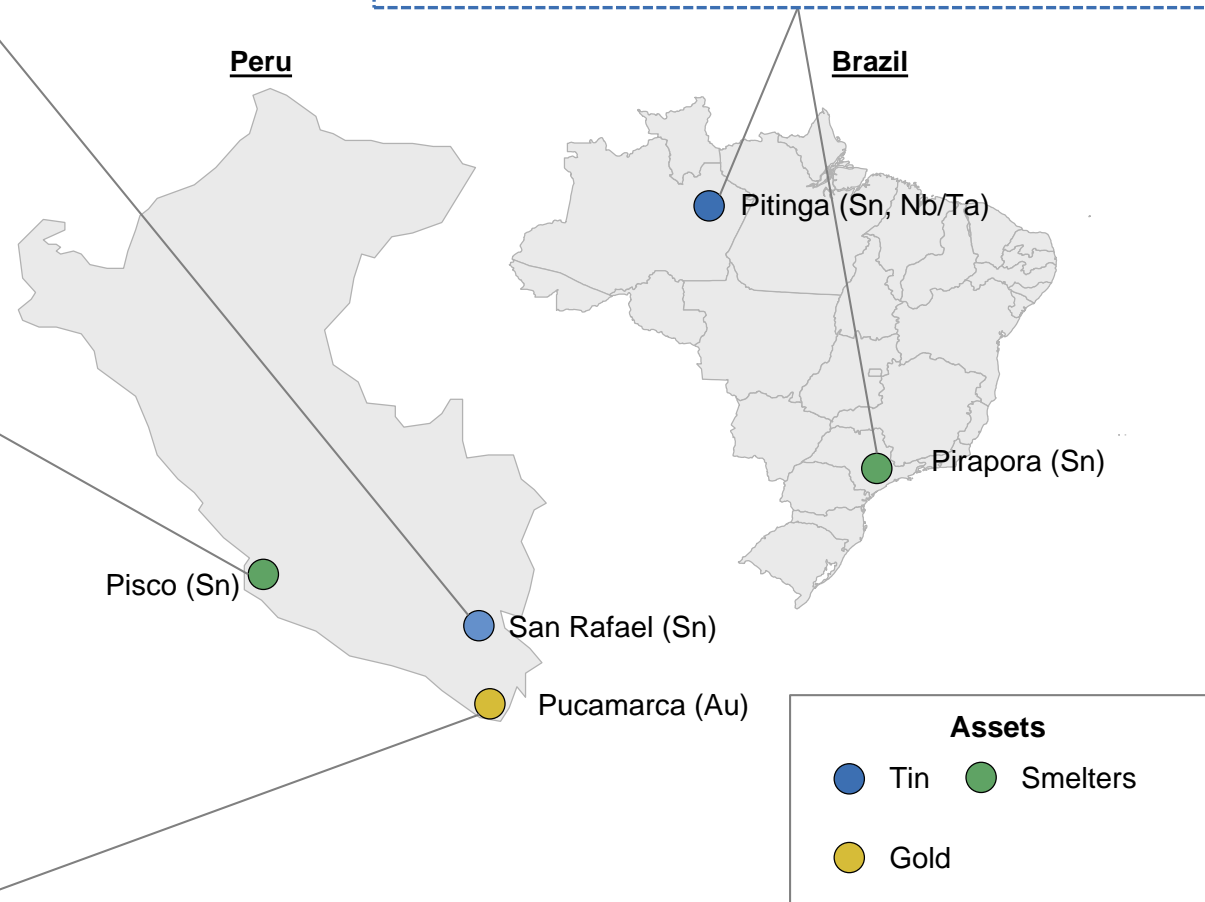
## **PISCO (Sn Smelter)**

- 3rd largest tin plant in the world
- Smelting capacity :72,000 MT/ year of concentrate
- First plant in the world to use submerged lance technology
- High recovery rate (2014): 96.7%



## **PUCAMARCA (Au)**

- Open pit mine with plant capacity of 17,500 MT/day (ore), Currently expanding the capacity to 21,000 MT/day
- R&R (2014): 1.35mm oz of Au
- Average mined ore grade (2014): 0.697 g/MT
- Cash Cost (2014): US\$ 356/Oz (one of lowest cash cost gold producer in the world)

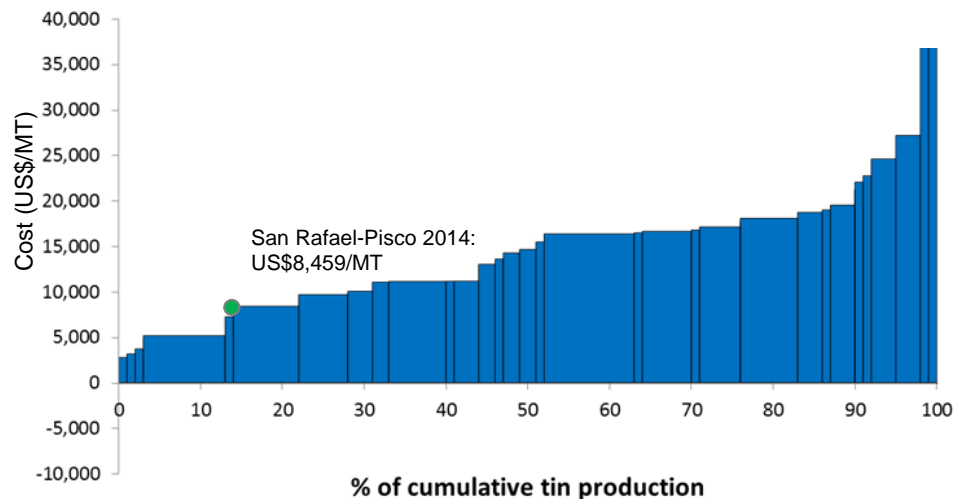


# San Rafael: world's largest tin mine and low cost producer...

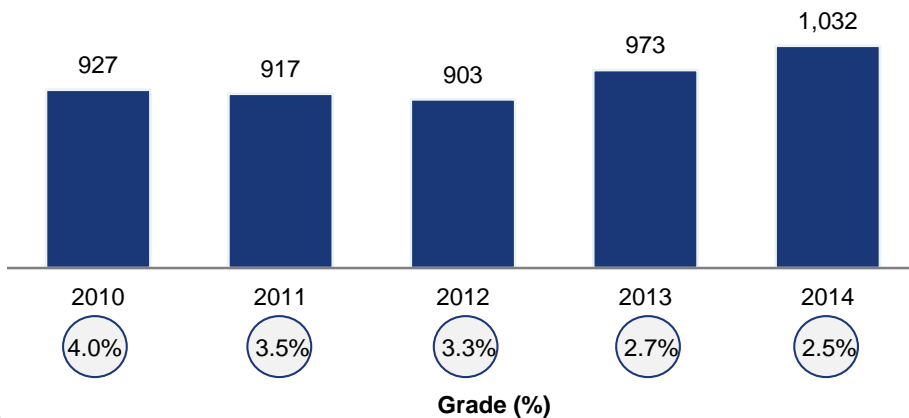
## San Rafael and Pisco Overview

- Largest and richest ore grade tin mine in the world, producing around 8% of global tin supply
  - High grade deposit, average resource grade of 3.78%
- Over 35 years of continuous operations
- Mine life: Over 6 years (202k MT contained tin 2014)
- World class safety standards (OHSAS:18001:2007, ISO14001:2004) and strong relationship with communities
- Vertically integrated with Pisco, enabling us to sell refined tin, a higher value-added product
  - 3rd largest tin plant in the world
  - One of the most efficient smelting plants in the world
  - Processes the totality of the ore mined at San Rafael

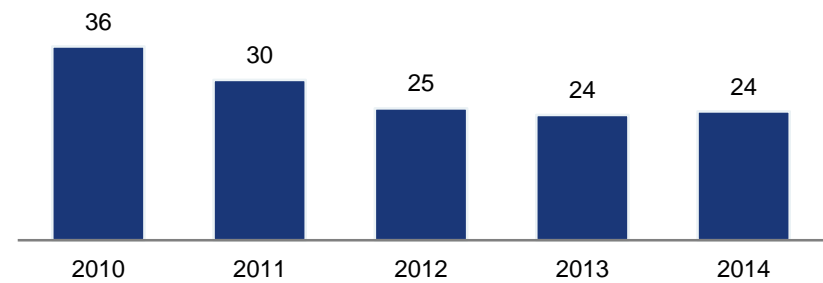
## "Cost curve position" position (US\$ / MT) - 2014 cash cost



## Treated material ('000 MT)



## Tin production ('000 MT)



# San Rafael: investing in Tin

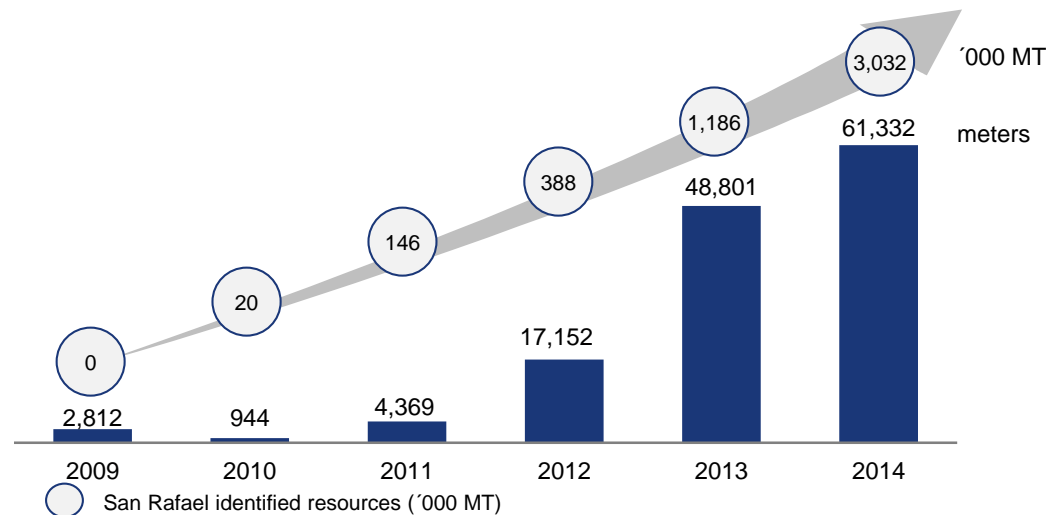
## Exploration program: increasing mine life

- Exploration drilling at San Rafael significantly increased.
  - **61,332** meters drilled in the year 2014
  - 26% increase in 2014 over meters drilled in 2013
  - 3,032,230 MT identified resources in 2014 (52,452 Sn MT contained)

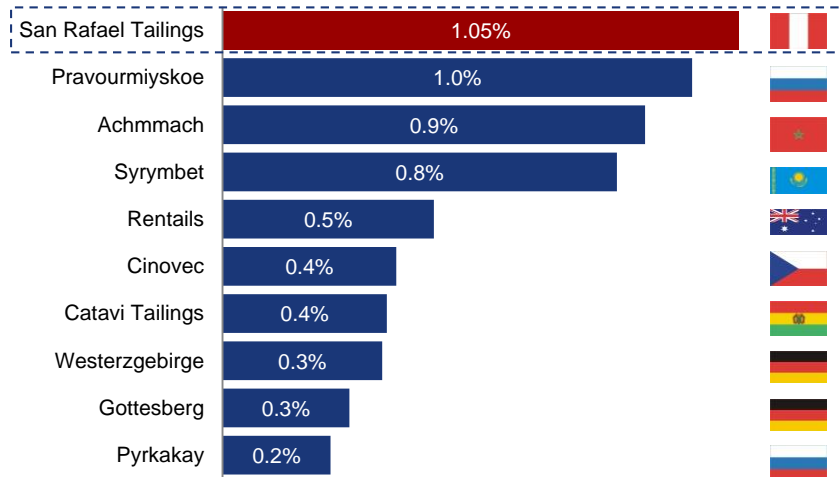
## Expansion project: San Rafael Tailings – B2I

- Process San Rafael's old high grade tailings
- Among the world's top 10 undeveloped Tin resources
- Approximately 5.4 million cubic meters, equivalent to 7.6 million metric tons, of tailings with an ore grade of 1.05% will be available for this process
- We expect to begin production, subject to the feasibility study, in the next three years.

## San Rafael drilling (m)



## Top 10 undeveloped Tin resources ('000 MT)\*



Source: ITRI, contained Tin

Note: San Rafael as per ITRI's estimate and consistent with methodology to estimate peers resource base

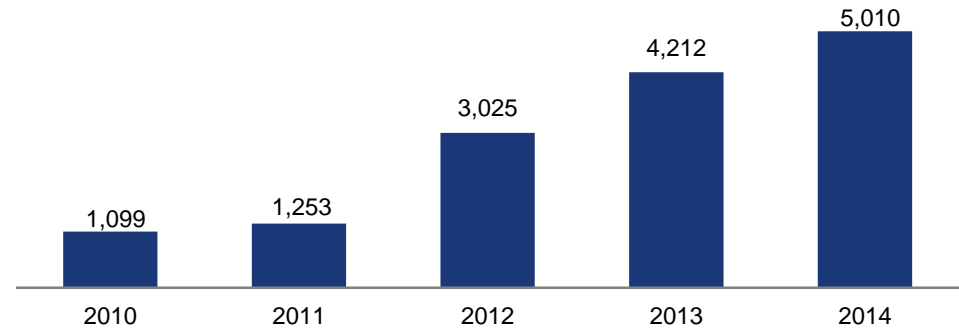
# Pitinga: world's largest tin deposit

## Pitinga and Pirapora Overview

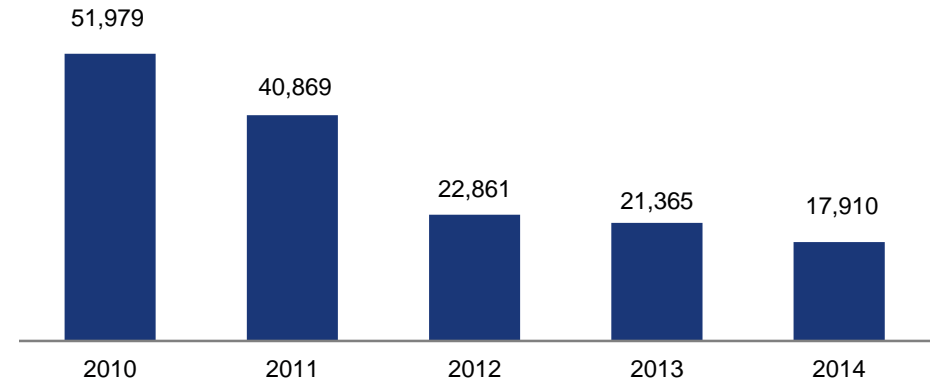
- World's single largest tin deposit of contained tin resources as of 2013, Niobium and Tantalum as by-products
  - Estimated resources of 545K MT of tin with an average ore grade of 0.14% as of December 2014
  - Average mine life: Over 28 years
- Vertically integrated through the Pirapora smelter
  - Processes the totality of the tin ore mined at Pitinga
  - More than 99.90% of tin purity
  - Smelting capacity of 10,000 MT of concentrate per year
- Continuously improving the performance of Pitinga mine:
  - Improved recovery rates and higher throughput
  - Increased tin metal production in 2013 by 39%
  - Significant capital investments scheduled for the next 2-3 years to ramp up production and economies of scale



## Pitinga's performance - Refined tin production (MT)

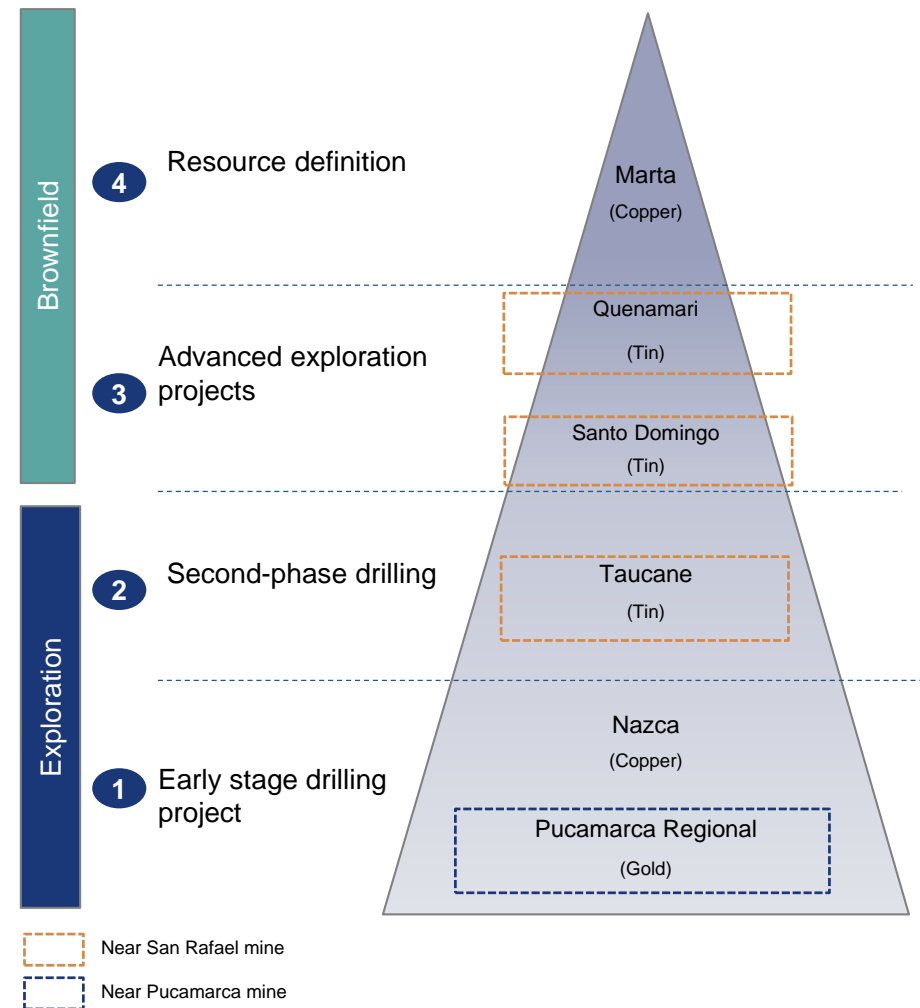


## Pitinga and Pirapora by product- cash cost evolution - (US\$/MT)<sup>1</sup>



# Additional exploration and expansion projects






- Committed to expanding production capacity and developing new operations
  - Currently exploiting only 14.2% of owned concessions
  - Exploring an additional 31.8% of mining concessions
- Have intensified exploration efforts
  - Focused on existing mining operations and surrounding areas
  - Particularly at or near San Rafael



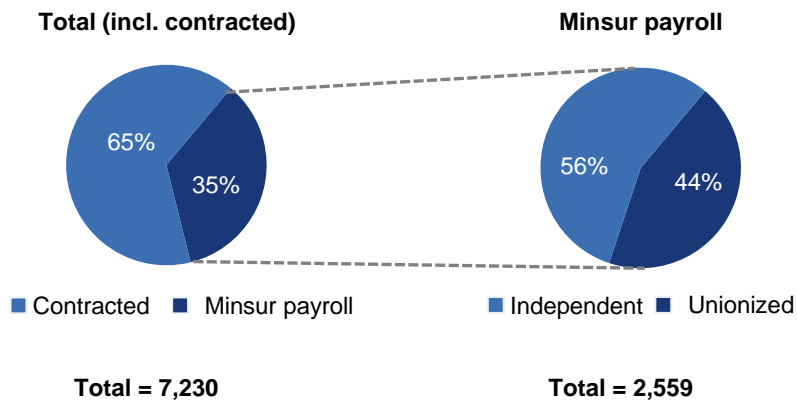
Minsur has significant untapped potential through an extensive concession area:  
**Total 277,939 Ha in mining rights inventory (Peru, Chile and Brazil)**

# Sustainability: strong commitment to safety, environment and communities

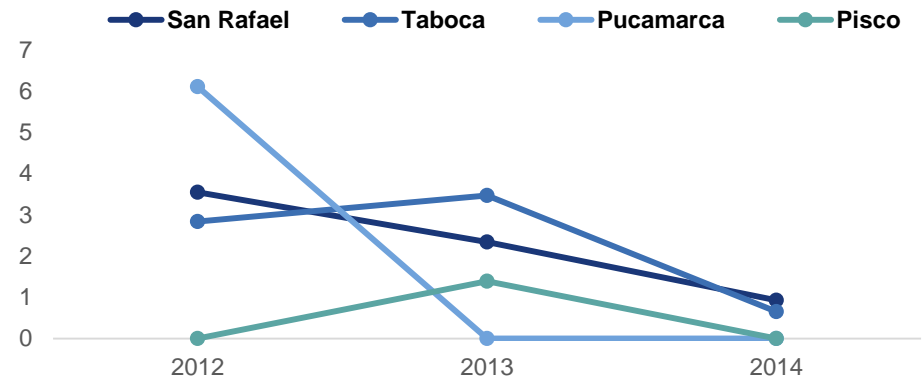
## World Class Safety Standards

World class safety standards	<input checked="" type="checkbox"/> Longstanding safety certifications and initiatives	
Training programs	<input checked="" type="checkbox"/> Regular training programs for employees	
World class safety initiatives	<input checked="" type="checkbox"/> Implementing safety program based on DuPont guidelines	
Constant monitoring	<input checked="" type="checkbox"/> Regular audits of safety controls and workers' health	
Strong track record of safety	<input checked="" type="checkbox"/> Awarded John T. Ryan trophy for market leading safety standards in the years 2001, 2004, 2007, 2010 and 2012	

## Employee overview (December 2014) <sup>1</sup>

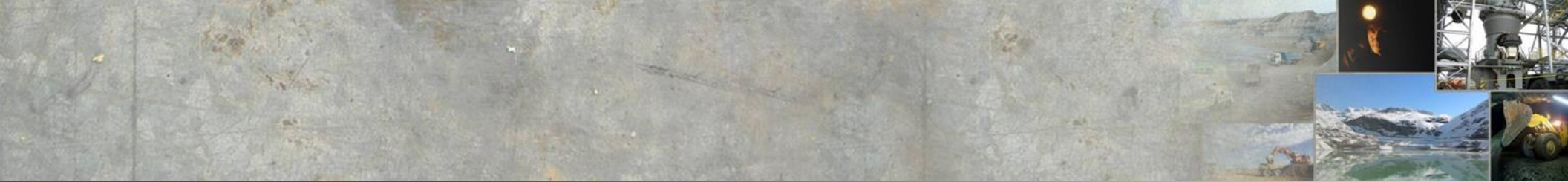


## Accident frequency index



Note: Accident frequency index is based on the number of accidents per man hours worked

<sup>1</sup> Applies for Minsur Mining operations & Management



## AGENDA

South American Production Overview

New Production

Minsur's Operations

Challenges and Conclusions





# Industry Challenges – South America



- Limited investment in new projects, begs the question on sustainability of supply
  - New production and projects with lower grades and in very early stage
  - Permitting becoming more difficult and taking longer
  - Significant untapped potential but more difficult to take into production
- Social unrest and political instability affecting investment appetite and thesis
- Extension of Conflict Mineral Policies – manage perceptions and expectations on supply reliability

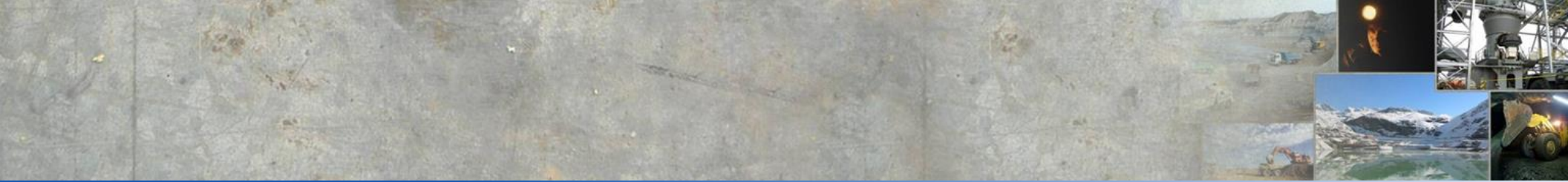
## **Minsur is well positioned to undertake these challenges**

- Significant investments to sustain supply
- Replacement of resources and reserves
- Low cost producer
- High quality deposits and projects – grade and size
- Commitment to sustainable mining



# Conclusions

- South America is and will continue to be a major, sustainable, Tin supplier
  - Highly endowed region – size and quality of deposits
  - High exploration potential
  - Conflict-free zip codes
- However, to ensure supply sustainability we need to:
  - Increase investments in Tin
  - Accelerate the project development pipeline
- As an industry, we need to have a long term view
  - Short term price gains will not compensate risk of reductions in future demand
  - SUSTAINABILITY OF SUPPLY IS CRITICAL
- **Minsur is fully committed to sustain a long term, reliable, Tin supply**
  - Significant investment to replace resources and reserves (\$12M-\$15M per year)
  - Significant capital investment in expansion projects in Peru and Brasil
    - \$400M-\$500M growth capex in the next 4 years
    - Bofedal II and Pitinga expansion will increase production by ~8,000-10,000 tons of tin/yr
  - Significant investment in brownfields exploration (1.5%-2.0% of revenues)



# **MINSUR**

**A global leading integrated and sustainable Tin producer**